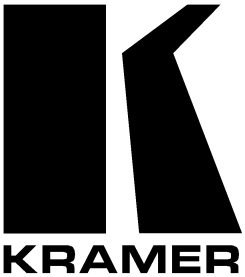
Kramer Electronics, Ltd.



USER MANUAL

Model:

Cobra TA

Video / Audio Transmitter

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer TOOLS **Cobra TA** *Video / Audio Transmitter*, which extends VGA and audio signals over ordinary CAT5e cable.

The package includes the **Cobra TA** *Video / Audio Transmitter* and this user manual[2].

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[3]. You may also need 1/8" (3.5mm) audio cable, video cable with HD15 connectors, and CAT5 cable

The Kramer **Cobra** series products are not compatible with Kramer non-**Cobra** series products.

3 Overview

Our Kramer **Cobra** series products are compatible with CAT5/5e/6 data cabling as well as skew free CAT5/5e cabling manufactured for video applications. Note that some skew free CAT5 is specific to a particular vendor and is not compatible with our products.

We recommend using our Kramer **Cobra** ultra low skew cable—**BC-HDTP**

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

3 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

(solid bulk) or **BCP-HDTP** (solid plenum bulk)—available in lengths of 700' (210m) and 1300' (390m).

CAT6 cable, due to the manufacture method, can exhibit much greater skew than standard CAT5/5e and may require skew compensation beyond what the standard product offers. Contact Kramer Electronics for assistance.

CAT5/5e/6 cabling for this product must be pinned to the TIA-EIA T568B wiring specification (see appendix A). We also highly recommend that all CAT5 cables be pre-terminated and tested. Cables terminated on-site or in an existing infrastructure should be tested before use to ensure compliance with the TIA-EIA T568B specification. Using incorrectly terminated CAT5 cables can damage this product.

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances that may adversely influence signal quality and positioning your **Cobra TA** in a location free from moisture and away from excessive sunlight and dust

Caution – No operator-serviceable parts inside unit.

Warning – Use only the Kramer Electronics input power wall adapter that is provided with this unit[1].

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

Warning –This equipment is not intended for, nor does it support, distribution through an Ethernet network. Do not connect these devices to any sort of networking or telecommunications equipment!

1 For example: model number AD2512C, part number 2535-000251

4 Setup and Installation

With regard to connecting the cables:

- We recommend mounting and connecting all cabling to the **Cobra TA** *Video / Audio Transmitter* components before applying power.
- Be sure that the CAT5 cable you intend to use has been tested to comply with the T568B wiring specification (see Appendix A).

4.1 Making the Connections

This section contains figures showing connections with the specific **Cobra** Series models. In general, however, the connection and setup procedure at both transmitter and receiver ends is as follows:

At the transmitter end:

1. Connect the source video to the **Cobra TA** Series transmitter video input port, which is an HD15 connector labeled VIDEO INPUT.
2. Make your audio connections via the 1/8" (3.5mm) audio connector.
3. Connect the CAT5 cable to the transmitter.
4. Apply power on the transmitter. The LED should light.

At the receiver end (refer to the receiver user manual):

1. Connect the VIDEO OUTPUT HD15 connector to the display unit.
2. Connect a 1/8" (3.5mm) audio cable to the AUDIO OUTPUT connection.
3. Connect the CAT5 cable to the UTP connection.
4. Apply power. The LED should light and video should appear on the display (make sure display is powered ON).
5. To adjust video levels see appropriate section in receiver user manual.

4.2 Connecting the Cobra TA Video / Audio Transmitter

The **Cobra TA** *Video / Audio Transmitter* supports video and audio signals over CAT5 cable. The audio signal is line-level audio, and powered speakers are required. Figure 1 shows the **Cobra TA** *Video / Audio Transmitter* connections, and Figure 2 shows a typical **Cobra** receiver connection.

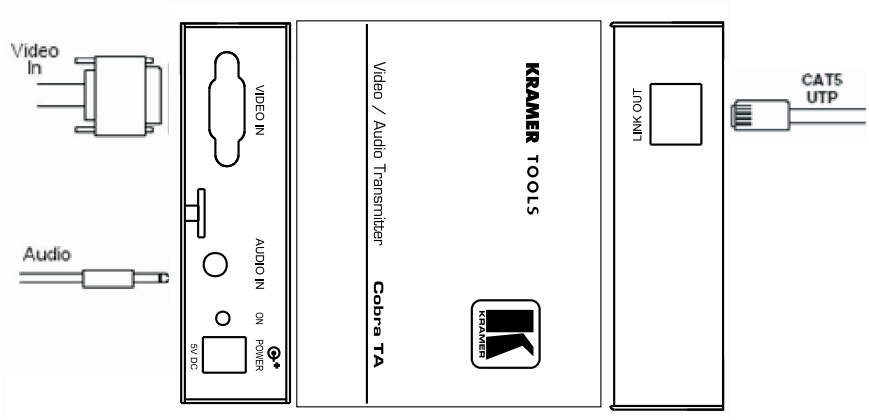


Figure 1: Connecting the Cobra TA Video / Audio Transmitter

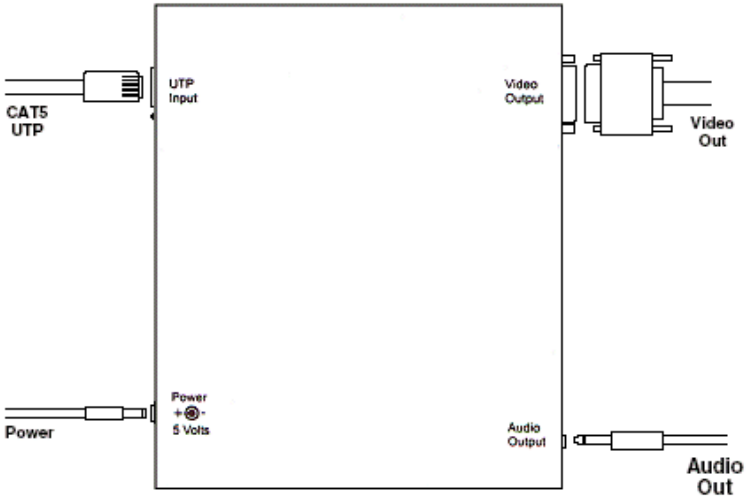


Figure 2: Connecting the Cobra Receiver

4.3 Typical Single-Port Transmitter–Receiver Application

Figure 3 shows a typical application in which the **Cobra TA** *Video / Audio Transmitter* is connected over CAT5 to a receiver.

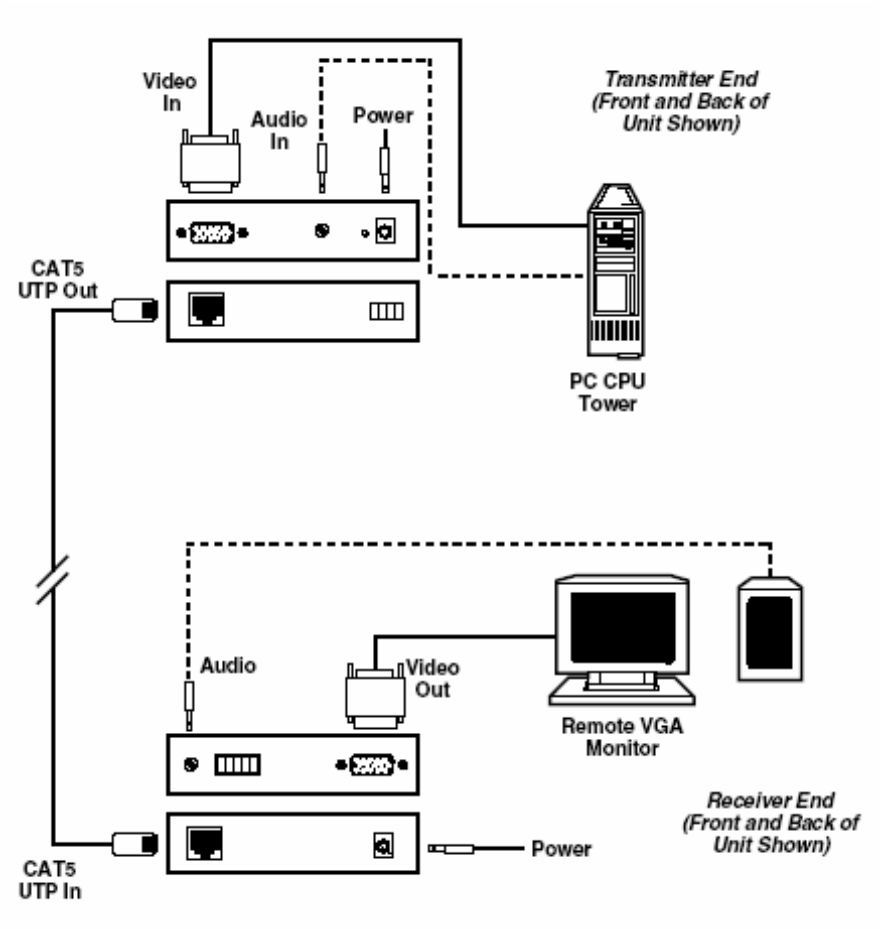


Figure 3: Transmitter to Receiver Connections

5 Solutions to Common Problems

There are no user configurable settings on the **Cobra TA** *Video / Audio Transmitter*. In most cases, nearly every issue with the **Cobra** Series can be resolved by checking the CAT5 termination and making sure that it is pinned to the 568B wiring specification. However, there may be other problems that cause the system to not perform as it is designed. Below are solutions to the most common installation errors.

Problem:	No video signal at the receiver.
Solution:	Check that both units are powered. **Ensure Cable Length Compensation adjustments are set correctly on the receiver.** Make sure the CAT5 cable is terminated correctly per the 568B wiring specification. Is the display device powered on and functioning? Note, that if cable EQ adjustment is too high, or too low, for a given cable length, an image may not appear.
Problem:	Poor video quality.
Solution:	Have all receiver adjustments been finished? Check all cable connections. **Ensure Cable Length Compensation adjustments are set correctly on the receiver.** The video signal's refresh rate may be set too high for the display. Reset to a lower refresh rate in your monitor-configuration menu.
Problem:	Poor audio quality.
Solution:	Powered speakers are required. Make sure speaker power is ON. Check input source levels from the source device. Make sure the audio source is not overdriven or underdriven.
Problem:	**"**Green shift" or "green washout" on multimedia signals.
Solution:	The standard video model is designed to function with DC coupled signals in which the black level is referenced to 0 volts. Nearly all VGA cards function this way. Some media servers and VGA DAs, however, provide AC coupled signals and can cause a green color shift in the video. This is a result of the sync clamping on the red and blue channels of the transmitter/receiver units.

6 Technical Specifications

Table 1: Technical Specifications[1] of the Cobra TA Video / Audio Transmitter

CABLE REQUIRED:	Category 5, 5e, 6 shielded or unshielded twisted pair
COMPLIANCE:	CE; FCC Class A, IC Class/class A
VIDEO SUPPORT:	RGBHV, RGB, Composite, S-Video, Component Video modes
MAXIMUM RESOLUTION AND REFRESH RATE:	To 1920x1200 @ 60Hz (receiver dependent)
REQUIRED SOURCE IMPEDANCE:	Video OUT: 75 ohms; Audio OUT: 600 ohms maximum
REQUIRED DESTINATION IMPEDANCE:	Video IN: 75 ohms Audio IN: 600 ohms minimum
AUDIO CHARACTERISTICS:	Channels: Right/Left summed; Line Level 600 Ohm Unbalanced
CONNECTORS:	(1) 3.5-mm, (1) RJ-45, (1) HD15 F
TEMPERATURE TOLERANCE:	Operating: 32 to 104°F (0 to 55°C); Storage: -4 to +140°F (-20 to +60°C)
HUMIDITY TOLERANCE:	Up to 80% noncondensing
ENCLOSURE:	Steel
POWER:	+5 VDC @ 260 mA max Consumption: 1.3 watts maximum
SIZE:	1.38 "H x 3.62"W x 4.38"D (3.5 x 9.2 x 11.1 cm)
WEIGHT:	0.62 lb. (0.28 kg)

1 Specifications are subject to change without notice

Appendix A Cabling Pinouts

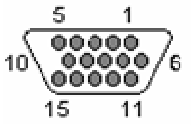
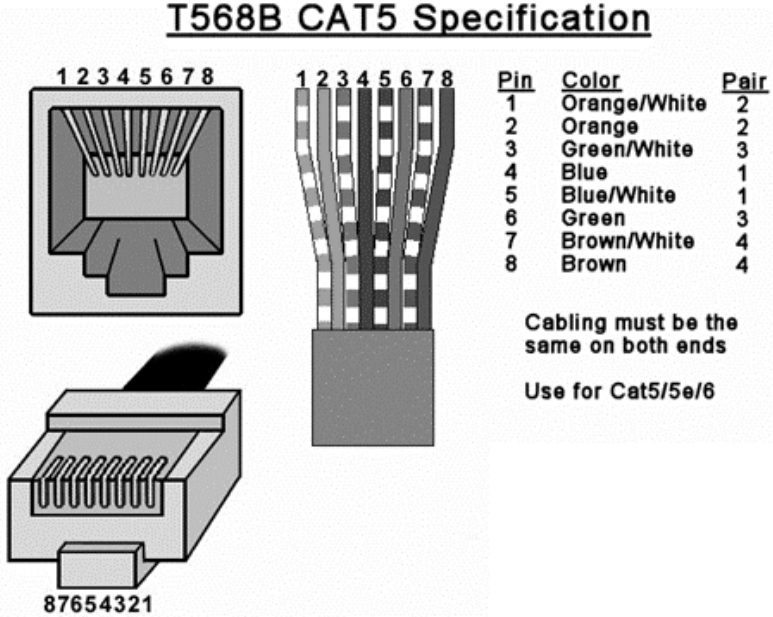


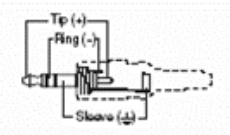
Table 2: HD15 PINOUT

Pin	RGBHV (VGA)	RGBS	RGsB	Composite	SVHS (Y/C)	YUV	Composite Video and Stereo Audio
1	Red +	Red +	Red +		C+	V+	Audio
2	Green+	Green+	Green+	C+	Y+	Y+	C+
3	Blue+	Blue+	Blue+			U+	Audio
4	—	—	—				
5	Gnd	Gnd	Gnd				
6	Red-	Red-	Red-		C-	V-	Shield
7	Green-	Green-	Green-	C-	Y-	Y-	C-
8	Blue-	Blue-	Blue-			U-	Shield
9	—	—	—				
10	Gnd	Gnd	—				
11	Gnd	Gnd	—				
12	—	—	—				
13	H Sync	C Sync	—				
14	V Sync	—	—				
15	Gnd	Gnd	—				



1/8" (3.5 mm) Audio Connection

Pin	Channel 1	Channel 2
Tip	+	
Ring		+
Sleeve	-	-



Note: The stereo audio input at the transmitter is summed and output as mono audio on both channels at the receiver.

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   ii) Product modification, or failure to follow instructions supplied with the product
   iii) Repair or attempted repair by anyone not authorized by Kramer
   iv) Any shipment of the product (claims must be presented to the carrier)
   v) Removal or installation of the product
   vi) Any other cause, which does not relate to a product defect
   vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: “Radio frequency devices Subpart B Unintentional radiators”

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

Kramer Electronics, Ltd.
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P/N: 2900-650007 REV 2